

REMARKS/ARGUMENTS

The Office Action mailed December 8, 2009, has been carefully reviewed and these remarks are responsive to that Office Action. Claims 1-28 are pending in this application. Claims 1-10, 15, 17-20, and 26-28 have been amended. Support for the amendments may be found in Figure 4 and on page 6, line 20-page 7, line 13, among other places, of the Specification as originally filed. Reconsideration and allowance of this Application are respectfully requested. The Examiner is requested to call the undersigned by phone if it is felt that this response does not place the Application in condition for allowance.

Examiner Interview

Applicants thank the Examiner for the interview on December 17, 2009. During the interview, Applicants discussed the differences between the DCD message of the independent claims and the addressing scheme of the Chapman '430 reference. The Examiner agreed that further describing the DCD message of the independent claims may overcome the references of record. As such, Applicants have herewith amended the independent claims to further describe the DCD message of the independent claims.

Rejection under 35 U.S.C. § 103

Claims 1-28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chapman (US Patent No. 7324515), hereinafter referred to as Chapman '515, in view of Chapman (US Patent No. 7349430), hereinafter referred to as Chapman '430.

Independent claim 1 has been amended to recite, among other things:

wherein each DCD message identifies at least a portion of the network addresses associated with the tunnels provided by the CMTS and includes a listing of tunnel types and a listing of tunnel type identifiers for differentiating between different tunnels identified with a same tunnel type

Neither Chapman '515 nor Chapman '430, either alone or in combination, disclose or suggest at least this feature of amended claim 1. The Office Action on page 3 admits that Chapman '515 does not disclose or suggest downstream channel descriptor (DCD) messages.

However, also on page 3, the Office Action alleges that the downstream channel addressing scheme discussed in the Chapman '430 reference meets this feature of independent claim 1. Chapman '430 relates to "an improved addressing scheme ... for use in access networks." (See Abstract of Chapman '430). While Chapman '430 does describe the use of "a downstream channel descriptor 575 in combination with the domain ID 572 associated with that particular downstream channel," (See Chapman '430, column 9, ll. 63-64) the downstream descriptor of Chapman '430 does not disclose or suggest "a listing of tunnel types and a listing of tunnel type identifiers for differentiating between different tunnels identified with a same tunnel type," as claimed. Page 6 of the Specification describes these fields. (See Specification, page 6, lines 24-25 and page 6, lines 27-28, "The tunnel type column 90 identifies the tunnel types of the tunnels identified in the DCD message 88." and "The tunnel identifiers 94 are unique identifiers associated with each tunnel type 90.") Figures 5A-C of Chapman '430 detail different downstream channel addressing schemes used therein. While these embodiments show a slot ID, port ID, downstream channel ID, and domain ID, none of these fields disclose or suggest a tunnel type and a tunnel type identifier, as claimed. The slot ID refers to a slot in the CMTS occupied by a specific line card (e.g., an electronic circuit with downstream and upstream channel interfaces such as that shown in 310, 320, 330, and 340 of Figure 3 of Chapman '430). The port ID corresponds to a port on the line card corresponding to that particular slot (e.g., an upstream or downstream channel transmitter/receiver interface such as that for channels D1, U1, U2, etc. in Figure 3 of Chapman '430). (See also Chapman '430, column 7, ll. 16-18.) The domain ID identifies a grouping of line cards (See Chapman '430, column 2, ll. 63-64) and hence is not a tunnel type. Finally, the downstream channel ID identifies a downstream channel associated with a particular service ID (SID). (See Chapman '430, column 14, ll. 49-51.) A service ID is "used to identify flows associated with particular cable modem in a particular DOCSIS domain." (See Chapman '430, column 4, ll. 44-46.) Examples of service flows include data, VoIP, and video. (See Chapman '430, column 4, line 52.) Data, VoIP, and video represent different ways in which the same information is communicated to a customer; they are not equivalent to "a listing of tunnel types and a listing of tunnel type identifiers for differentiating between different tunnels identified with a same tunnel type," as claimed.

Moreover, the load sharing table 1020 (See Chapman '430, col. 18, ll. 43-57) discussed in Chapman '430 does not disclose or suggest a DCD message including "a listing of tunnel

types and a listing of tunnel type identifiers for differentiating between different tunnels identified with a same tunnel type,” as claimed. The load sharing table includes a downstream loading sharing group ID, a downstream channel descriptor field, and a sub-domain ID field; however, these identifiers merely relate to balancing the load associated with each of the channels. These identifiers have no bearing on “a listing of tunnel types and a listing of tunnel type identifiers for differentiating between different tunnels identified with a same tunnel type,” as claimed.

Hence, Applicants submit that claim 1 is in condition for allowance. Claims 2-7 depend from claim 1 and are distinguishable for at least the same reasons as claim 1, and further in view of the various features recited therein.

Independent claims 8, 15, and 26 have been amended to recite features similar to those of claim 1 discussed above. Hence, for reasons similar to those given above for claim 1, Applicants submit that independent claims 8, 15, and 26 distinguish over the references of record and are in condition for allowance. Claims 9-14, 16-25, and 27-28 depend from one of these independent claims and are distinguishable for at least the same reasons as the independent claim from which they depend, and further in view of the various features recited therein.

All objections and rejections have been addressed. Hence, it is respectfully submitted that the present application is in condition for allowance, and a notice to that effect is earnestly solicited.

Respectfully submitted,

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